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WHAT IS CLAIMED IS:

- 1. A process for the production of a cellular composite comprising:
 - (A) preparing a mixture of (1) a polyisocyanate and (2) water;
 - (B) adding the mixture formed in (A) to (3) inorganic hollow microspheres under low shear mixing;
 - (C) completely filling a mold with the mixture formed in (B); and
 - (D) heating the filled mold at a temperature of from 100 to 280°C;

thereby reacting the polyisocyanate and water to form a polyurea which binds the hollow microspheres, thus forming a cellular composite.

- 2. The process of Claim 1, wherein the mixture formed in (A) additionally comprises: one or more additives.
 - 3. The process of Claim 1, wherein the mixture formed in (A) is added in (B) to (3) inorganic hollow microspheres additionally comprising one or more additives, under low shear mixing.
- 4. The process of Claim 1, wherein (D) said heating is at a temperature of from 125 to 150°C.
 - 5. The process of Claim 1, wherein (B)(3) said inorganic hollow microspheres are selected from the group consisting of glass, silicates, boro-silicates, ceramic, fly-ash and mixtures thereof.
- 6. The process of Claim 1, wherein (A)(1) said polyisocyanate is characterized by an NCO group content of from 25 to 35% by weight, and a functionality of from 2.0 to 3.5, a viscosity of less than about 500 mPa·s at 25°C, and is selected from the group consisting of aromatic polyisocyanates, and adducts and mixtures thereof.
- 7. The process of Claim 1, wherein (A)(2) said water is present in an amount such that there is an excess of from 2 to 5 times the

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stoichiometric quantity required based on the NCO group content of (A)(1) said polyisocyanate.

- 8. The process of Claim 1, wherein (D) said heating continues from 0.5 to 60 minutes.
- 9. A cellular composite produced by the process of Claim 1.